

Home > Technical Review

Facility Name	Michigan Potash Operating, LLC	Contact	Theodore A. Pagano	Class:	11
EPA Permit	MI-133-11-0005	State Permit #		Permit Type	Individual Permit
Well Name	MPC 2D	Well Status	Proposed Well (associated with permit application only)	Well Status Date	1/16/2015
County		Tribal Name			

Monitoring	Tests							
	<table><tr><th>Category</th><th>Type</th><th>Date</th><th>Result</th></tr><tr><td colspan="4">Edit</td></tr></table>	Category	Type	Date	Result	Edit		
Category	Type	Date	Result					
Edit								
Add Report	Report History							
	Add Test							

Inspections	Violations		
<table><tr><th>Type</th><th>Date</th></tr></table>	Type	Date	
Type	Date		
Add Inspection	Add Violation		
	Add Enforcement		

A. Area of Review Methods

What is the AOR based on? Fixed 2-mile

Save Cancel

B. Maps of Wells : Area of Review

Does the topographic map show all of the required features? (The map should include all surface features man-made or natural, and subsurface features such as mines, wells, and known faults) Yes

Are there topographic maps that extend one-mile beyond the property boundary that depict the facility and each of its intake and discharge structures, hazardous waste treatment, storage, or disposal facilities; each well where fluids from the facility are injected; and those wells, springs, and other surface water bodies and drinking water wells listed in the public records within a 1/4 mile. Yes

Is there a list of all of the land owners within the AOR? Yes

Surface elevation of the wellsite 1124

The elevation is based on Ground level

Save Cancel

C. Corrective Action Plan and Well Data

Number of wells that are temporarily abandoned	0
Is the construction adequate?	NA
Number of wells that are plugged and abandoned	21
Is the construction adequate?	Yes
Number of wells that are producers	1

Number of wells that are injectors

8

Is the construction adequate?

Yes ▾

Number of Other Wells

0

Is the construction adequate?

NA ▾

Is there a corrective action plan?

NA ▾

Number of wells that penetrate into or through the confining zone

30

Save Cancel

D. Maps and Cross-sections of USDWs

Formation name of lowest USDW:

Glacial Drift

Is there a stratigraphic column that shows all USDWs?

Yes ▾

Depth to base of lowest most USDW(ft)

620

Method for USDW determination

hydrogeologic test holes

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Save Cancel

F. Maps and Cross-sections of the geologic structure of the area

Is there a regional cross-section map and structure contour map

Yes ▾

Is there a site specific cross-section map and structure contour map

Yes ▾

	Injection Interval	Confining Zone
Formation Name	Amherstburg Formation	Detroit River Group
Lithology	Sandstone	Anhydrite
Depth to Top (ft)	4962	4170
Depth to Bottom (ft)	5550	4962
Permeability (md)		
Porosity (%)		

What is the separation between the top of the injection zone and the base of the USDW?

4342

Were the presence and extent of natural or induced fractures in the injection and confining zones adequately investigated?

Yes ▾

Save Cancel

H. Operating Data

The injectate is

liquid ▾

Injection Rate Unit

Gallons per minute ▾

Method used to determine maximum injection pressure

Fracture Gradient equation ▾

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Source of fracture gradient

Default ▾

Known fracture gradient

0.80 ▾

Maximum expected injection rate(gpm)

864000

Maximum enforceable injection rate(gpm)

Maximum specific gravity of injectate

1.25

Add Safety Factor For Specific Gravity?

▾

Friction Allowance

Technical basis for friction allowance

Maximum injection pressure(r5_mip_calc_formula) btr5MipCalcFormula / lbr5MipCalcFormula

1269 1269

pH range

Does the corrosion monitoring comply with 40 CFR part 146.68(c)?

NA ▾

Is corrosion monitoring required

▾

What is the composition of the annulus fluid

Brine Water with Corrosion Inhibitors ▾

Save Cancel

Does the formation testing proposed meet CFR 146.12 (d) and (e) [for non-haz] or 146.66 [for haz] or 146.32(b) [Class III]?

Yes ▾

Are there adequate procedures for acquiring formation pressures above the injection interval?

Yes ▾

Are there adequate sampling and analysis procedures for the first aquifer overlying the confining zone?

Yes ▾

Are there adequate sampling and analysis procedures for the injection zone?

NA ▾

Will there be coring?

No ▾

Proposed method for determining fracture gradient

step rate test

Save Cancel

J. Stimulation Program

Is a stimulation proposed

Yes ▾

What is the type of stimulation?

acid

Is this type of stimulation approved?

Yes ▾

Save Cancel

K. Injection Procedures

Is there a plant plan that shows the stream flow lines?

Yes ▾

Are there descriptions of any filters, storage tanks, and/or pretreatment?

Yes ▾

What is the storage tank capacity?

147000

What is the rate capacity of the pumps?

660

What is the pump capacity type?

(None) ▾

Is an alarm system proposed?

Yes ▾

What are the alarm thresholds?

The shut-off system will be

Manual ▾

What are the shut-off thresholds?

MIP

Save Cancel

L. Construction Procedures

Is this a new well, existing or a conversion

New ▾

Save Cancel

M. Construction Details

Pipe/Hole set

Cemented

	From top (ft)	To base(ft)	Pipe Size(in)	Hole Size(in)	Number of sacks of cement	From top(ft)	To base(ft)
Conductor							
Surface Casing	0	800	9.625	13.375	320	0	800
Intermediate Casing							
Long String Casing	0	5700	7	8.75	743	0	5700
Liner							
Perforated Section							
Open Hole	5700	6130					
Packer depth		5600					
Tail Pipe depth							
What is the plug back total depth?		6130					
What is the total depth of the well?		6130					

Is the packer set 100 ft or less above the injection zone?

Yes

Tubing material

▾

Tubing size

Save Cancel

O. Plans for well failure

What actions are proposed if MI is lost?

shut-in, notify EPA, CP &

Save Cancel

P. Monitoring Program

Where is the sample located?

At discharge of final filtra

Is there an adequate description of source(s) of waste?

Yes v

Is there a representative of waste analysis?

Yes v

What's the frequency of physical and chemical monitoring?

What's the frequency of monitoring reports?

Is there adequate waste characterization including compatibility?

Yes v

Is a ground water monitoring plan included?

NA v

Please describe waste recharacterization.

Is QA/QC adequate?

Yes v

Is WAP adequate?

Yes v

Is the monitoring and recording system for injection pressure, flow rate, volume, and annulus pressure adequate?

Yes v

Save Cancel

Q. Plugging and Abandonment Plan

How many plugs will be used to plug the well?

Generate Plugs

Signed estimate of plugging and abandonment costs (and post-closure costs, if applicable) by an independent firm

Yes v

Estimated Plugging Cost

30400

Estimated Post Closure Cost

Date the plan was signed

Date of 3rd Party Plugging Cost Estimate

9/15/2014

Save Cancel

Add Plug

R. Necessary Resources

Available Mechanisms

Individual state bond DEPNO59831331
Individual state bond DEPNO59831321
Individual state bond DEPNO59831311

Add

Selected Mechanisms

Individual state bond DEPNO59831321

Edit Mechanisms

S. Aquifer Exemptions

Is the company asking for an aquifer exemption?

N v

Aquifer Name

None v

Save Cancel

T. Existing Permits

List Existing permits and permit numbers

N/A

List outstanding permit applications

MI-133-11-0004, -0005, 0

Save Cancel

U. Description of Business

Business description

Production and manufacturing
of agricultural fertilizer.

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Save Cancel

V. Compliance with other Federal Acts

Any designated wild and scenic rivers within the AOP?

No v

Has the permit writer evaluated whether there are endangered or threatened species in the AOR?

Are there any listed species in the AOR?

Will the permit need an ESA Clause?

Was the Historic Preservation Office contacted?

Are there historic resources present?

Is the well located in a coastal zone?

If yes, then has the permit writer contacted the State Coastal Management Program in writing?

Does the permit application call for the diverting, impounding, deepening or controlling any surface water body in excess of 10 acres?

EJ number

Yes ▾
No ▾
No ▾
Yes ▾
No ▾
No ▾
NA ▾
No ▾
2 ej screen

X. Confidentiality

Has any part of this permit application been declared confidential by the operator?

No ▾

Other

Comments

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Review Completion

Reviewer

BATKA ALLAN ▾

Signature Date

1/20/2016